

# Catheter-Associated Urinary Tract Infection (CAUTI) Tier 2 Interventions



# Presenter

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# Learning Objectives

- Outline the Tier 2 enhanced interventions to prevent catheter-associated urinary tract infections (CAUTI)
- Describe when implementation of Tier 2 CAUTI interventions may be necessary
- Identify strategies to overcome barriers associated with the additional CAUTI interventions



# Tier 2 Overview\*

## Tier 1 Standardize Supplies, Procedures and Process

(complete all interventions: review and audit compliance with Tier 1 measures prior to moving to Tier 2)

Place indwelling urinary catheter only for appropriate reasons

Encourage use of alternatives to indwelling urinary catheters

Ensure proper aseptic insertion technique and maintenance procedures

Optimize prompt removal of unneeded catheters

Urine culture stewardship: culture only if symptoms of UTI are present

(If CAUTI rates remain elevated, start with CAUTI Guide to Patient Safety (GPS) and Target Assessment for Prevention (TAP) Strategy and then proceed with additional interventions)

Perform needs assessment with CAUTI GPS and TAP Strategy

## Tier 2 Enhanced Practices

Conduct catheter rounds with targeted education to optimize appropriate use

Feed back infection and catheter use to frontline staff in “real time”

Observe and document competency of catheter insertion: education and observed behavior

Perform root-cause analysis or focused review of infections



# Conduct Catheter Rounds

## Team Members

- Ideally multidisciplinary
- Physician, nurse caring for patient, infection preventionist, charge nurse or designee



## Expected Outcomes

- Minimize extra work
- Real time data available to frontline staff
- Decrease CAUTI infections



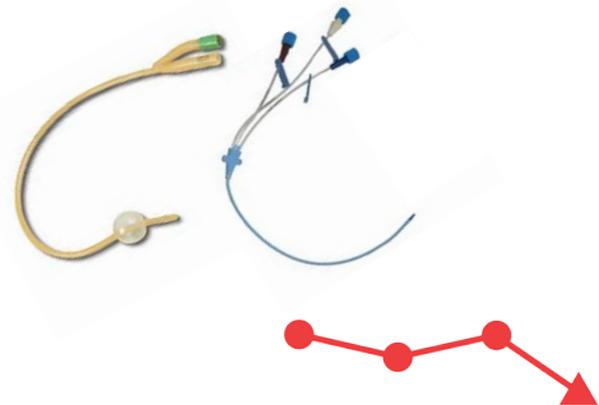
# Barriers to Rounding

- Time
- Availability of staff
- Competing priorities at the bedside
  - Patient education
  - Fall prevention
  - Basic care



# Strategies to Overcome Barriers to Catheter Rounds

- Incorporate into “plastics rounds”
- Consider nursing rounds
- Use it to promote mentoring and critical thinking:
  - Why does my patient have the catheter?
  - Does this patient still need it?
  - Is it properly maintained?
- Use as patient engagement tool



# Feedback CAUTI and Catheter Use Information in Real Time

- Infection information is more relatable if the information is fed back as soon as the infection is identified and if the patient is still in the unit or hospital
- An infection preventionist should contact the unit manager or charge nurse when a CAUTI is identified
- Consider using huddles or debriefs to talk about the case with the unit staff



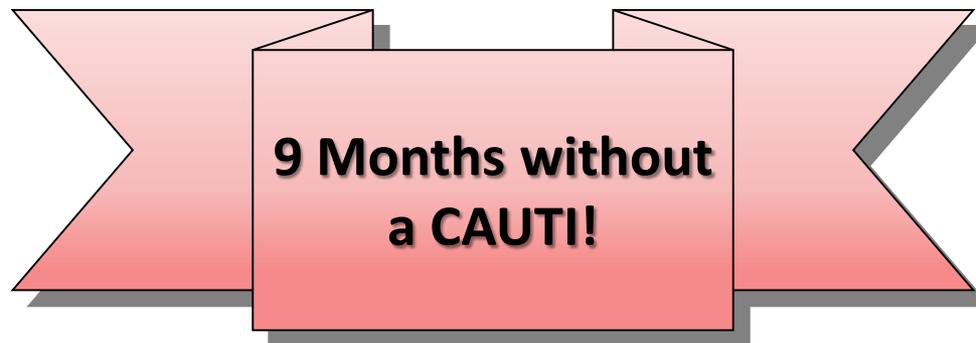
# Barriers to Providing Real Time Feedback

- Infection Preventionist's time – may not look at data immediately
- Staff availability or time
- Staff competing priorities
- Culture – belief that the CAUTI is not preventable



# Strategies to Overcome Barriers to Providing Real Time Feedback

- Appoint unit champions
- Assess possible infections even while awaiting confirmation
- Celebrate success



# Observation of Competency

Observe and document competency of indwelling urinary catheter insertion and maintenance



# Observe and Document

## Study by Manojlovich and colleagues

- Directly observed insertion of urinary catheters in an emergency department
- 65 patients, 81 insertions
- Findings
  - No hand hygiene prior to 74% of insertions
  - No hand hygiene in 91% post insertions
  - 59% of insertion attempts were associated with a major break in sterile technique



# Competency Assessment for Urinary Catheters

Indwelling Urinary Catheter (IUC) Insertion Checklist to Prevent CAUTI in the Adult Hospitalized Patient: Important Evidence-Based Steps.	Yes	Yes with Reminder	Comments
<b>Before IUC insertion:</b>			
1) <b>Determine if IUC is appropriate per the CDC Guidelines</b> (CDC, 2009) (See page 1, Box 1).			
2) <b>Select smallest appropriate IUC</b> (14 Fr., 5ml or 10 ml balloon is usually appropriate unless ordered otherwise).			
3) <b>Obtain assistance PRN</b> (e.g., 2-person insertion, mechanical aids) <b>to facilitate appropriate visualization/insertion technique.</b>			
4) <b>Perform hand hygiene.</b>			
<b>Patient Preparation/Insertion of IUC:</b>			
1) <b>Perform peri-care, then, re-perform hand hygiene.</b>			
2) <b>Maintain strict aseptic technique throughout the actual IUC insertion procedure, re-perform hand hygiene upon completion.</b> <ul style="list-style-type: none"> <li>• Use <u>sterile gloves and equipment</u> and establish/maintain sterile field.</li> <li>• Do not pre-inflate the balloon to test it, as this is not recommended.</li> </ul>			
3) <b>Insert IUC to appropriate length and check urine flow <u>before</u> balloon inflation to prevent urethral trauma.</b> <ul style="list-style-type: none"> <li>• In males, insert fully to the IUC "y" connection, or in females, advance ~1 inch or 2.5 cm beyond point of urine flow.</li> </ul>			
4) <b>Inflate IUC balloon correctly:</b> Inflate to 10 ml for catheters labeled 5 ml or 10 ml per manufacturer's instructions.			

(ANA CAUTI Prevention Tool, ANA,

<https://www.nursingworld.org/practice-policy/work-environment/health-safety/infection-prevention/ana-cauti-prevention-tool/>)



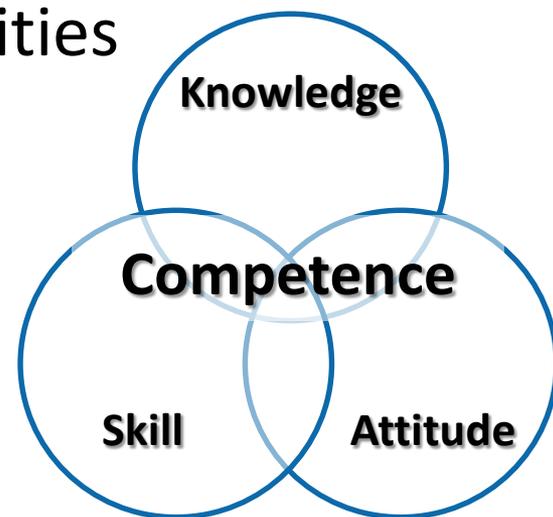
# Barriers to Competency Training

- Lack of time or labor intensive
- Staff turnover
- Lack of resources to evaluate competency
- Temporary staff
- Failure to include all professional categories of staff that insert catheters.
- Lack of administrative support
- Lack of champions



# Strategies to Overcome Barriers

- Incorporate competency into unit-based education
- Enlist and engage nursing champions to conduct audits
- Incorporate checklists into daily activities
- Identify all individuals who insert urinary catheters and ensure competence



# Perform Root Cause Analysis or Focused Review

## Perform Root Cause

- Events such as a CAUTI can be an opportunity for improvement
- Consider using the Learning From Defects tool
- The tool is most helpful when discussed as close to the event as possible

## Learning From Defects Tool

What happened? (brief description)			
Why did it happen? (what factors contributed)			
+		-	
<u>What prevented it from being worse?</u>		<u>What happened to cause the defect?</u>	
What can we do to reduce the risk of it happening with a different person?			
Action Plan	Responsible Person	Targeted Date	Evaluation Plan – How will we know risk is reduced?
With whom shall we share our learning? (Communication plan)			
Who	When	How	Follow up

(Learn From Defects Tool, AHRQ, 2012, <https://www.ahrq.gov/professionals/education/curriculum-tools/cusptoolkit/toolkit/learndefects.html>)



# Root Cause Analysis Tool

## Catheter Associated Urinary Tract Infection (CAUTI) Review

MRN #:

Infection Onset Date:

Hospital Location:

### Patient Information

Admission Date: \_\_\_\_\_ Diagnosis: \_\_\_\_\_ Gender: M F

Comorbid Conditions:  Dialysis  Neurogenic bladder  BPH  Pressure ulcers  Incontinent  Previous UTI  History of UTI

Female > 50 yo  CHF  Chronic catheter  Urinary retention  Debilitated health  Geriatric fracture (notify M. Evans)

### The Catheter

Catheter type:  foley  coude  Other: \_\_\_\_\_ Catheter Size (fr): \_\_\_\_\_

Catheter day # \_\_\_\_\_ Insertion Date: \_\_\_\_\_ Inserted by:  Nursing  Provider  Resident Other: \_\_\_\_\_

Insertion location:  ED  OR  ICU  Inpatient Unit \_\_\_\_\_ Emergent Insertion  Yes  No  Unknown

Provider Order  Yes  No Decath Protocol Ordered  Yes  No Insertion Criteria Met  Yes  No

Criteria:  urinary tract obstruction  urinary retention and neurogenic bladder  chemical paralysis/sedation  
 perioperative use for selected surgical procedures  hemodynamic instability  incontinence that poses risk to skin integrity (skin maceration, incontinence associated dermatitis (IAD), >stage II pressure ulcer)  comfort care/end of life  
 movement intolerance or severe impairment: trauma to head, neck, spine, pelvis/abdominal, neurological, or rectal surgery  
 need for strict urinary output measurement

If criteria met was "need for strict urinary output measurement", could the patient ambulate to the bathroom  Yes  No

Use a urinal, bedpan, or bedside commode  Yes  No Use a condom catheter  Yes  No If an incontinent patient has intact skin and is on bedrest, could an adult brief be used to manage incontinence  Yes  No

If strict output is necessary, can it be measured by weighing the patient, measuring output from bedpan, urinal, or commode, or weighing an adult brief  Yes  No

Catheter Removed?  Yes  No Catheter removal date: \_\_\_\_\_ Reason for removal: \_\_\_\_\_

Could the catheter have been removed earlier?  Yes  No If yes, reason it was not removed: \_\_\_\_\_

Urine culture ordered by \_\_\_\_\_ Indication for urine culture \_\_\_\_\_

If catheter has been in place > 2 weeks, was catheter replaced prior to obtaining culture specimen?  Yes  No

### The Infection (To be completed by Infection prevention)

Earliest positive urine culture date for this CAUTI \_\_\_\_\_

Symptoms:  fever  subrapubic tenderness  costovertebral angle pain or tenderness  urgency  frequency  dysuria



# Barriers to Conducting RCAs and Strategies to Overcome Them

Barriers	Strategies to Overcome
May be perceived as finding fault	<ul style="list-style-type: none"><li>• Keep the discussion focused on the patient</li></ul>
Time intensive	<ul style="list-style-type: none"><li>• Include the discussion in regular shift reports</li></ul>
Physician and nursing reluctance	<ul style="list-style-type: none"><li>• Demonstrate the value of reviewing cases</li><li>• Have open discussions</li><li>• Use aggregate data on findings to change behavior</li></ul>



# Take Home Messages

If CAUTI rates are not declining despite best efforts:

- Involve nursing and physician champions
- Establish regular rounding
- Ensure insertion and maintenance competency
- Regularly audit practices and provide feedback
- Perform root cause analysis on CAUTI cases

Celebrate successes!



# References

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- Learn from Defects Tool. Content last reviewed December 2012. Agency for Healthcare Research and Quality, AHRQ, Rockville, MD. Accessed January 12, 2017. Available at <http://www.ahrq.gov/professionals/education/curriculum-tools/cusptoolkit/toolkit/learndefects.html>
- Manojlovich M, Saint S, Meddings J, et al. Indwelling urinary catheter insertion practices in the emergency department: an observational study. *Infect Control Hosp Epidemiol.* 2016; 37(1): 117-9.
- TeamSTEPPS 2.0. Agency for Healthcare Research and Quality, AHRQ. Rockville, MD. Content last reviewed September 2016. Accessed January 30, 2016. Available at <http://www.ahrq.gov/teamstepps/instructor/index.html>
- Streamlined Evidence-Based RN Tool: Catheter Associated Urinary Tract Infection (CAUTI) Prevention. American Nurses Association. Accessed May 18, 2016. Available at <http://nursingworld.org/CAUTI-Tool>.



# Speaker Notes



# Speaker Notes: Slide 1

Welcome to this module, titled “Catheter-Associated Urinary Tract Infection (CAUTI) Tier 2 Interventions.” This is the second module of the Tier 2 interventions for CAUTI Prevention. This module will discuss other interventions that may be necessary to implement if CAUTI rates remain high after consistent application of Tier 1 interventions.



# Speaker Notes: Slide 2

This module was developed by national infection prevention experts devoted to improving patient safety and infection prevention efforts.



# Speaker Notes: Slide 3

After completing this module you will be able to:

- Outline the Tier 2 enhanced interventions to prevent CAUTI;
- Describe when implementation of Tier 2 CAUTI interventions may be necessary; and
- Identify strategies to overcome barriers associated with these additional interventions.



# Speaker Notes: Slide 4

Your hospital might have worked hard to implement all of the recommended guidelines described in the Tier 1 modules. You have policies and practices for placing indwelling catheters for only appropriate reasons, you have encouraged the use of alternatives, ensured proper aseptic technique, and optimized removal of unneeded catheters and have a urine culture stewardship program. However, your CAUTI rates remain elevated. In addition to using the CAUTI Guide to Patient Safety, GPS and/or the Centers for Disease Control and Prevention's, or CDC's, Targeted Assessment for Prevention, or TAP, Strategy to assess CAUTI prevention practices, it may be time to implement additional enhanced activities to prevent CAUTI. These include:

- Conducting catheter rounds,
- Giving immediate feedback in real time to frontline staff,
- Observing and documenting competency of catheter insertion, and
- Performing a full root cause analysis of each CAUTI case.



# Speaker Notes: Slide 5

One of the first Tier 2 interventions is to conduct catheter rounds. Ideally, this would involve a multidisciplinary team consisting of the nurses caring for the patients, the physician, the charge nurse or designee and the infection preventionist. The expected outcome is to minimize extra work by providing discussion at the bedside with real time data available to frontline nurses. Obviously, discussing whether or not the patient still needs a catheter and removing it promptly can decrease CAUTIs, patients cannot develop a CAUTI if they don't have an indwelling urinary catheter.



# Speaker Notes: Slide 6

There are several barriers to rounding which will be discussed further in this module. First of all, it is sometimes difficult to assemble the entire team at the same time. In addition, nurses can have several competing priorities such as patient education, fall prevention and basic patient care



# Speaker Notes: Slide 7

One strategy to overcome the aforementioned barriers is to incorporate indwelling urinary catheter rounds into “plastics rounds,” or rounds that focus on all indwelling devices. Another option is to incorporate urinary catheter rounds into regular nursing rounds. This would provide great mentoring and critical thinking opportunities for bedside nurses. For example, unit managers or educators could ask, why does this patient need a catheter? What criteria do they meet?



# Speaker Notes: Slide 7 Continued

Additionally, some hospitals have found this type of rounding helpful to discuss the removal of the device with the patient. For example, rounding staff can explain, “We’re going to remove your urinary catheter today. We want to help prevent you from acquiring a urinary tract infection. In the meantime, we’ll help you to the bathroom and check on you. Don’t hesitate to ring your bell if you need assistance.” Thus, implementing rounds can be part of hospital’s patient engagement initiative and can help boost overall patient satisfaction with care.



# Speaker Notes: Slide 8

The second Tier 2 strategy for CAUTI prevention is feeding back CAUTI and catheter use information to frontline staff in real time. When staff receive feedback in real time, they can more easily relate to the information, especially if the patient is still on the unit or in the hospital. Putting a name and a face to an event is a powerful tool. When possible, an infection preventionist should contact the unit manager or charge nurse as soon as a CAUTI is identified. It is also helpful to call a huddle or debrief to talk about the case with all of the unit staff.



# Speaker Notes: Slide 9

Despite the benefits of real time infection feedback, there are often barriers that can make it difficult. One of the barriers to feedback may be other activities of the infection preventionist that delay recognition of a newly diagnosed CAUTI. In some instances, staff may be too busy to take the time to review the case given their many competing priorities. Finally, if the organizational culture does not support the belief that many healthcare-associated infections such as CAUTI are preventable, it may be difficult to engage staff.



# Speaker Notes: Slide 10

In order to overcome barriers to real time feedback, it is important to appoint unit champions. It may be helpful to have more than one champion on a unit. Assessing a suspicious infection even before it is confirmed may be another strategy to help staff initiate prompt review of their processes. Finally, celebrate success! The picture on the slide shows an example of a banner posted on a patient care unit to celebrate nine months without a single CAUTI.



# Speaker Notes: Slide 11

Another Tier 2 strategy is to ensure that all staff who insert and maintain indwelling urinary catheters are competent in these practices. Competency is really a two-step process, it requires the knowledge as well as the observation of the desired behavior. Demonstrating competency cannot be overstated or underestimated. In addition, auditing and providing feedback are of the utmost importance



# Speaker Notes: Slide 12

This study by Manojlovich and colleague demonstrates how important competency assessment is. In this study, the researchers directly observed 81 indwelling urinary catheter insertions in 65 patients in an emergency department (ED). They found that in 74 percent of insertions the inserter did not perform hand hygiene. In addition, in 91 percent of insertions, hand hygiene was not performed post insertion. And finally, 59 percent of insertion attempts were associated with a major break in sterile technique.



# Speaker Notes: Slide 13

Ideally, education and competency-based training should be included in staff orientation and conducted annually. There are several available competency checklists for assessing indwelling urinary catheter insertions. The American Nurses Association, or ANA, spearheaded an initiative to reduce CAUTIs in hospitals. This initiative led to the development of an indwelling urinary catheter assessment and decision-making tool for registered nurses and other clinicians. This assessment can be used at the bedside to determine the best way to provide care. The tool shown on this slide can serve both as a checklist and competency assessment for catheter insertion.



# Speaker Notes: Slide 14

As you think about enhancing your indwelling urinary catheter insertion competency training, it is once again important to consider barriers you might encounter. One issue that occurs in some health care settings is that there is limited time for new staff orientation. As the demand for more and more orientation training at the time of hire increases, there may be competing demands and priorities to cover at orientation. Likewise, staff turnover or the use of temporary staff may create unique challenges. Some individuals who insert catheters might not be included in competency training (e.g. Surgeons). Finally, there may be lack of administrative support or champions to support these efforts.



# Speaker Notes: Slide 15

One way to overcome barriers is to incorporate competency into unit-based education. Many organizations have unit or department educators who can assume this role. Recruit champions to help conduct audits. Identify all individuals who insert indwelling urinary catheters and ensure their competence or identify an alternate team member to perform the procedure. For example, ensure that the surgeon is competent to insert the urinary catheter, or perhaps have a nurse who is competent, insert the catheter instead.



# Speaker Notes: Slide 16

The last strategy to target CAUTIs if your rates remain elevated is to conduct a full or mini-root cause analysis. A root cause analysis, or RCA, is a structured method used to analyze serious adverse events. In recent years, such analyses have provided valuable information about the root cause of HAIs, by taking a “deep dive” into potential causes of HAIs. There are many tools available to help with the RCAs, and they can be modified to facilitate team discussion, and are often referred to as a “focused review.” One recommended tool is the Learning From Defects Tool available on the AHRQ website.



# Speaker Notes: Slide 17

A general tool, such as the Learning from Defects Tool, can be used for a focused review or root cause analysis. However, teams may also benefit from a tool that focuses specifically on the CAUTI. The tool on this slide includes information such as placement, length of time the catheter was in place, whether the catheter could have been removed earlier and other helpful information. Aggregate information from this tool may be helpful in identifying process deficiencies that may have led to increased rates.



# Speaker Notes: Slide 18

Staff may be sensitive to the use of focused reviews and may feel that they are made to feel personally responsible for the CAUTI. One strategy to overcome this is to keep the discussion focused on the patient, not on individual staff. In addition, staff time may be an issue. Shift reports or quick huddles may be good opportunities to share information and have these focused discussions. If nurses or physicians are reluctant to be involved, it is helpful to demonstrate the value of these discussions, and how this aggregate information can lead to additional insight and potentially change behaviors. For example, if a pattern exists in which patients who develop CAUTIs could have had their catheters removed sooner, this could lead to more prompt removal..



# Speaker Notes: Slide 19

Take a moment to review the key take home points. If CAUTI rates are not declining despite your best efforts to implement the Tier 1 interventions, consider the following strategies:

- Involve nursing and physician champions,
- Establish regular rounding,
- Ensure insertion and maintenance competency,
- Regularly audit practices and provide feedback, and
- Perform root cause analysis on CAUTI cases

And don't forget to celebrate success, because nothing succeeds like success!



# Speaker Notes: Slide 20

No notes.

